

REMARKS

Claims 1-3, 6-9, 18, 19, 21 and 22 are pending. By this amendment claims 4, 5, 16, 17 and 20 are canceled. Claims 1, 6 and 7 have been amended. No new matter has been added.

Claims 1, 2, 4, 7, 8, 20 and 22 are rejected under 35 USC 102(b) as being anticipated by Kazumasa, corresponding to JP2002-026450. Claims 5, 6, 17, 18 and 21 are rejected under 35 USC 103(a) as being unpatentable over Kazumasa in view of Paoli, U.S. Patent No. 5,140,605. Since claim 1 has been amended to incorporate the features of claim 5, applicants will address these rejections together.

Kazumasa discloses that the window area is formed by ion-implanting As atoms into the window area and annealing at an annealing temperature of 600 °C or more in AlGaInP-based LD.

In the claimed invention, ionized As atoms are irradiated to the second clad layer of the second conductivity type in the area near a laser resonator end face in AlGaInP-based LD, and the impurity atoms having the second conductivity are II-group atoms that have an atomic number smaller than the atomic number of P. Thereby, the window area can be formed even at an annealing temperature of 600 °C or less, and deterioration of the device properties caused by heat can be prevented.

Paoli teaches that the window area is formed by using Mg atoms and Be atoms, which have a mass number smaller than that of P atom, as p-type dopants in AlGaInP-based LD, ion-implanting He⁺ or O⁺ in the window area and being subjected to annealing at 650 °C.

In contrast, in the claimed invention, As atoms are irradiated to the window area. Thereby, as stated above, the window area can be formed even at an annealing temperature of 600 °C or less and deterioration of the device properties caused by heat can be prevented.

Thus, neither Kazumasa nor Paoli, either alone or in combination, teaches the features of claim 1.

The remaining claims are allowable at least due to their respective dependencies. All other outstanding rejections are moot in view of the foregoing claim amendments and applicants request that all rejections be withdrawn.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 204552031400.

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Respectfully submitted,

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